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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,896

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EXAMINER

JOSEPH, DENNIS P

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/531,896	<b>Applicant(s)</b> ASAO ET AL.	
	<b>Examiner</b> DENNIS P. JOSEPH	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 18 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/18/2008</u> .  | 6) <input type="checkbox"/> Other: _____                          |

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**DETAILED ACTION**

1. This Office Action is responsive to amendments for No. 10/531,896 filed on December 18, 2008. Claims 1-10 and 21 are pending and have been examined.

***Information Disclosure Statements***

2. The information disclosure statement (IDS) was submitted and filed. The submission was in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Rejections – 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. **Claims 1-10 and 21** rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al ( 6,014,195 ) in view of Van Aerle et al ( US 2001/0004296 A1 )

Sakamoto teaches in Claim 1:

A color display element comprising a unit pixel which is comprised of a plurality of sub-pixels comprising a first sub-pixel and a second sub-pixel ( Column 3, Lines 24-29 disclose plates between a first and second electrode used to emit light. These are the pixel electrodes, forming sub-pixels ) and a medium which has an optical property modulated in accordance with a voltage applied to each of the sub-pixels and is located in each of the sub-pixels ( Columns 4-5, Lines 66-8 disclose applying voltages to the electrodes for color changes (gradation levels).

These are applied between the plates ),

wherein, the color display element has a means of applying to the first sub-pixel a voltage which modulates an optical property of the medium located in the first sub-pixel in a range within which a brightness of light passing through the medium is variable ( Columns 4-5, Lines 66-8 disclose applying voltages to the electrodes for color changes (gradation levels). Figure 70 shows the various combinations of colors which can be applied ) and in a range within which a chromatic color assumed by light passing through the medium changes ( Figure 70, Column 37, Lines 16-22 ), and a means of applying to the second sub-pixel a voltage which modulates an optical property of the medium located in the second sub-pixel in a range within which a brightness of light passing through the medium is variable. ( Figure 70, Column 37, Lines 16-22, between the plates are the electrodes ); but

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Sakamoto does not explicitly of the structure including a “color filter” for the second sub-pixel.

However, in the same field of endeavor, display systems with driving methods, Van Aerle teaches of using a color/retardation filter as a means to filter the light to the pixels ( Van Aerle, [0027] ). These are well known in the art and commonly used in conjunction with pixels.

Therefore, it would have been obvious to one of ordinary skill in the art to use the filter as taught by Van Aerle with Sakamoto's driving method with the motivation that that by using the filter, a black state problem is optimally corrected in a cost effective way. ( Van Aerle, [0010] )

Van Aerle teaches in Claim 2:

The color display element according to claim 1, wherein the color filter of the second sub-pixel is comprised of a green color filter. ( The specific color used for the filter is a design choice for optimal/preferred brightness adjustment. Van Aerle teaches of a green color filter in [0027] as well as portions of other colors in the filters )

Sakamoto teaches in Claim 3:

The color display element according to claim 2 wherein the range within which the color changes is a color range of red, blue and colors between them. ( Figure 70 shows the various combination levels of RGB and in between perceived colors, Column 34, Lines 29-35 )

Sakamoto teaches in Claim 4:

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The color display element according to claim 2, wherein a voltage making the light passing through the medium assume magenta intermediate between red and blue is applied to the first sub-pixel ( Figure 70, magenta has a wavelength in between red and blue ), and a voltage making the light passing through the medium has a maximum brightness in the range within which a brightness of the light is variable is applied to the second sub-pixel, whereby the unit pixel displays white color. ( Column 2, Lines 27-30 disclose a goal of the invention is to provide colorless "white" which is an extreme combination )

Van Aerle teaches in Claim 5:

The color display element according to claim 1, wherein the first sub-pixel has a color filter of a color complementary to a color of the color filter of the second sub-pixel. ( The Examiner takes Official Notice as to the use of magenta color filters, which are well known to be complementary to green color filters and are used in conjunction for good synchronization )

Van Aerle teaches in Claim 6:

The color display element according to claim 5, wherein the color filter of the second sub-pixel assumes green, and the color filter of the first sub-pixel assumes magenta. ( The Examiner takes Official Notice as to the use of magenta color filters, which are well known to be complementary to green color filters and are used in conjunction for good synchronization )

Sakamoto and Van Aerle teach in Claim 7:

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The color display element according to claim 5, wherein a voltage in the range within which the color changes is applied to the first sub-pixel, to display a color as a result of overlapping the chromatic color and a color of the complementary color filter with each other. ( Columns 4-5, Lines 66-8 disclose applying voltages to the electrodes for color changes (gradation levels). Figure 70 shows the various combinations of colors which can be applied. The combination with Van Aerle teaches to use the color filters and it is well known to have complementary filters. )

Van Aerle teaches in Claim 8:

The color display element according to claim 5, wherein a voltage making the lights passing through the mediums have a maximum brightness in the range within which a brightness of the light is variable is applied to the first and second sub-pixels, whereby the unit pixel displays white color. ( Column 2, Lines 27-30 disclose a goal of the invention is to provide colorless “white” which is an extreme combination )

Van Aerle teaches in Claim 9:

The color display element according to claim 5, wherein modulations of a same gray level in the range within which a brightness of the light is variable are applied to the first and second sub-pixels respectively, whereby an achromatic color of half tone is displayed in the unit pixel. ( Column 5, Lines 13-29 disclose achromatic colors such as white or black which can be applied to both electrodes using variation voltages )

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Sakamoto and Van Aerle teach in Claim 10:

The color display element according to claim 2, wherein the second sub-pixel is comprised of two or more of sub-pixels, at least one of which sub-pixels has a red color filter or a blue color filter. ( Examiner takes Official Notice as to the use of multiple sub-pixel structures. These are well known in the art. The particular color of the filter is a design choice. Van Aerle teaches of a green color filter in [0027] as well as portions of other colors in the filters )

6. The limitations of Claim 21 are similar to the limitations of Claim 1, so similar reasoning is applied here as well.

### ***Response to Arguments***

7. Applicant's arguments considered, but are respectfully not persuasive.

The new IDS has been received indicating the reference cited by the Examiner that was used in the double patenting rejection. Examiner apologizes if there was any confusion caused by not including the reference on the 892 form. That reference has now been included.

Applicant is thanked for filing the terminal disclaimer and as a result, the double patenting rejections have been removed as they are moot now.

Applicant is thanked for amending the claim language to clear it up in light of the 112 2<sup>nd</sup> paragraph rejection and as a result, that rejection has been removed.

Applicant's sole argument is that Sakamoto cannot be combined with Van Aerle because Column 1, Lines 15-25 of the primary reference, according to Applicant, seems to indicate that



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Sakamoto is teaching *away* from using color filters. Examiner disagrees with this position. One point to be made is that Sakamoto is describing the poor quality with LCD devices which are not equipped with a back light, leading to the light being absorbed twice, Column 1, Lines 15-18. In conjunction with having a color filter, this causes unfavorable quality. He further notes that plates have issues as noted in Column 1, Lines 45-67 and seeks to add a back light at the back of it to remedy the issues. As a result, he proposes an invention *with* a backlight as shown in his tenth embodiment, Figure 58 and Column 32, Lines 36-40. So the issues being discussed in his background involve issues with his backlight can be resolved.

Furthermore, Sakamoto is not explicitly stating that color filters cannot and should not be used with his invention. To the contrary, using the teachings of KSR and ordinary skill in the art, one can see the benefits of colors filters as a means for controlling the illumination of the light emitting elements. In addition, less optimal does not equate to teaching away. Sakamoto does not state the benefits in his summary or detailed description on how and why an invention without a filter is better; it is simply a preference. Furthermore, the addition of the filter does not destroy the functionality of Sakamoto's device.

Please note that the rejection was made under an obviousness type 103 and not an anticipatory 102 and that one would be motivated to combine the two references given the above discussion.

Applicant is advised to better claim the retardation method to overcome the current rejection.

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Applicant has traversed the Official Notice taken in the Office Action with regards to magneta color filters. Listed below are some references which teach this and are used to support the Examiner's notion that they are well known:

US 2002/0180688 A1, Drzaic et al, [0097]

US 2002/0177088 A1, Arakwa, [0174]

US 2002/0176710 A1, Saito et al, [0081]

US 2002/0176037 A1, Li, [0004]

US 2002/0172517 A1, Saito et al, [0101]

Examiner also took Official Notice as to the common use of a sub-pixel structure. Listed below are some references which teach this and are used to support the Examiner's notion that they are well known:

US 2002/0180688 A1, Drzaci et al, [0097]

US 2002/0084962 A1, Yamaguchi, [0027], [0036]

US 2002/0052223 A1, Yamaguchi, [0004]

US 2002/0051111 A1, Greene et al, [0130]

US 2002/0044114 A1, Sako, [0048]

These references have also been added to the PTO-892 form as well.

### ***Conclusions***

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS P. JOSEPH whose telephone number is (571)270-1459.

The examiner can normally be reached on Monday-Friday, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on 571-272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DJ

/Amr Awad/

Supervisory Patent Examiner, Art Unit 2629